Fact Sheets

SRS

R Area Burning/Rubble Pits and Rubble Pile

Background

The R Area Burning/Rubble Pit (RBRP), 131-R and 131-1R, is an inactive disposal site located approximately 1,200 feet southeast of the R Reactor Area perimeter fence at the Savannah River Site (SRS). RBRP is comprised of two parallel pits, each approximately 230 feet long by 30 feet wide and containing miscellaneous debris. One pit has been backfilled (131-R) and one remains open (131-1R).

The R Area Rubble Pile (RRP) is an area approximately ¾ acre in size and contains miscellaneous debris that was randomly placed on the ground, forming one contiguous pile approximately 2 to 3 feet deep. It is located 1,000 feet southeast of RBRP and just west of a wetland. The pile consists of various construction materials, metal shavings, friable asbestos, empty drums, railroad ties, lawn wastes, and small amounts of coal and ash. Because of the friable asbestos, a large portion of the unit has been barricaded to prevent unprotected personnel from entering. An old asphalt road borders the pile and extends into the pile area on the west side. The adjacent wetland is identified on historical maps, but has been dry during the characterization effort with no clear evidence of recent inundation. Soil analysis indicates that there are no radiological hazards associated with this unit.

Few historical records of specific activities at the RBRP are known to exist, however, the general operational history of burning/rubble pits at SRS is known. Burning/rubble pits at SRS were used from 1951 to 1973 for periodic burning of combustible wastes such as wood, cardboard, paper, plastics, rubber, rags, oils and organic liquids of unknown use and origin. Burning in open pits at SRS was discontinued in 1973; after then, the pits that were still active continued to receive inert debris such as scrap metal and construction materials. Disposal in burning/rubble pits at SRS ended by 1983. Because R Reactor was shut down in 1963, disposal activities at RBRP probably ceased prior to 1983.

A historical document search indicates that the burning/rubble pits were active in 1959 and contained low-level radiological waste. Monuments, typically used to mark radiological burial sites, are located at both ends of the closed pit, 131-R. Prior to commencing site characterization soil sampling, a radiological screening of surface and subsurface soils was performed. The results of this screening indicate that there are no radiological hazards associated with this unit that poses a human health risk.

Environmental Concerns

Early site investigations of the pits revealed the presence of laboratory chemicals and trace amounts of chlorinated solvents, such as trichloroethylene (TCE), tetrachloroethylene (PCE) and metals, including barium, chromium, copper, lead, vanadium, and zinc.

In 1991, site investigators expanded their studies. The studies included analyses of soil gases near the pits and examination of the groundwater collected from monitoring wells around the pits. The gas survey results determined that several organic chemicals were present in the soil. The groundwater data confirmed that only iron and manganese were present in the nearby monitoring wells.

Environmental Actions and Plans

In 2000 and 2001, SRS performed detailed characterization activities including soil gas analysis, gas diffusion sampling, soil sampling, and a determination of the extent of the groundwater plume. These studies were conducted to define the extent of contamination and to determine the human health and ecological risks. In 2001, SRS received U.S. Environmental Protection Agency and the South Carolina Department of Health and Environmental Control approval of the Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation (RFI/RI) Work Plan which summarized the characterization studies already performed and identified remaining characterization activities.

Upon completion of the characterization activities in 2003, an RFI/RI/Baseline Risk Assessment report will be prepared to identify any ecological and human health risks associated with these units. A Statement of Basis / Proposed Plan was prepared establishing that the preferred remedial action is to remove the pile material, place all non-RCRA hazardous waste on the pit, install a low permeability soil cover over the combined waste, and maintain institutional controls over the combined waste. The hazardous soils and materials will be sent to an approved off-site Treatment, Storage and Disposal facility. A signed Record of Decision is scheduled to be issued October 4, 2004. Remedial action will begin in September 2005.